

# Standard Knobs



**KURZ-KASCH, INC.**

**STANDARD PARTS DIVISION**

*Molders of Plastics*

**DAYTON, OHIO 45401**

THE MOST VERSATILE LINES OF STANDARD INSTRUMENT AND CONTROL KNOBS, DIALS, AND ASSEMBLIES AVAILABLE FROM STOCK TOOLING, FOR COMMERCIAL AND MILITARY APPLICATIONS. PRODUCED IN ANY OF THE STABLE AND HARD FINISH THERMOSETTING PLASTIC MATERIALS.

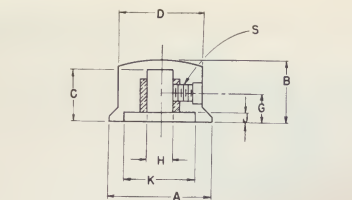
***Catalog 107***



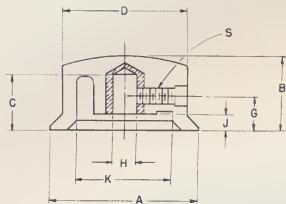
# INSTRUMENT KNOBS

## FUNCTIONAL LINE—WITH SKIRTS

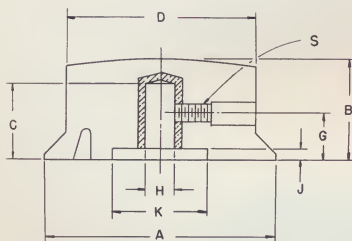
### "600" SERIES



1



2



3

#### key to suffixes

- 1 Molded hole to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 3 Flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 4 Flush type brass insert to fit  $\frac{3}{16}$ " shaft, with one setscrew.
- 5 Flush type brass insert to fit standard  $\frac{1}{8}$ " shaft, with one setscrew.
- 21 Molded hole to fit standard  $\frac{1}{8}$ " shaft, with one setscrew.
- 70 Heavy duty flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 103 Molded hole to fit standard  $\frac{3}{16}$ " square shaft, with spring.
- 133 Molded hole to fit  $\frac{1}{16}$ " shaft, with one setscrew.
- L Indicator line filled.

#### dimensions, inches

Cut. No.	Part No.	a	b	c	d	g	h	j	k	s
1	S-667-133L	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{9}{64}$	$\frac{1}{16}$	$\frac{1}{32}$	$\frac{1}{4}$	#2-56
1	S-645-1L S-645-3L S-645-5L S-645-21L	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{3}{8}$ $\frac{3}{8}$ $\frac{3}{8}$ $\frac{5}{16}$	$\frac{5}{8}$	$\frac{7}{32}$	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{8}$	$\frac{1}{16}$	$\frac{9}{16}$	#6-32
1	S-647-1L S-647-3L S-647-4L	1	$1\frac{1}{32}$	$\frac{1}{2}$ $\frac{1}{2}$ $1\frac{15}{32}$	$1\frac{13}{16}$	$\frac{9}{32}$	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{3}{16}$	$\frac{3}{32}$	$1\frac{1}{16}$	#8-32
1	S-648-1L S-648-3L S-648-21L S-648-103L	$1\frac{1}{4}$	$2\frac{1}{32}$	$\frac{1}{2}$ $\frac{1}{2}$ $1\frac{13}{32}$ $\frac{1}{2}$	1	$\frac{9}{32}$	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{3}{16}$	$\frac{3}{32}$	$1\frac{1}{16}$	#8-32 #8-32 #6-32 —
2	†S-642-1 S-642-3	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}$ $\frac{9}{16}$	$1\frac{1}{4}$	$1\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$3\frac{1}{32}$	#8-32
2	S-653-1L S-653-3L	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}$ $\frac{9}{16}$	$1\frac{1}{4}$	$1\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$3\frac{1}{32}$	#8-32
3	S-649-1L S-649-3L S-649-70L	2	$\frac{7}{8}$	$1\frac{11}{16}$ $2\frac{1}{32}$ $\frac{5}{8}$	$1\frac{5}{8}$	$1\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$1\frac{3}{16}$	#8-32
3	†S-654-1 S-654-3 S-654-70	2	$\frac{7}{8}$	$1\frac{11}{16}$ $2\frac{1}{32}$ $\frac{5}{8}$	$1\frac{5}{8}$	$1\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$1\frac{3}{16}$	#8-32
3	†S-671-70	3	$1\frac{1}{8}$	$1\frac{13}{16}$	$2\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{4}$	$\frac{3}{32}$	$1\frac{3}{16}$	#8-32

†S-642, S-654 and S-671 have no depressed indicator lines for paint fill. They can be furnished plain or engraved.





# INSTRUMENT KNOBS

## FUNCTIONAL LINE—WITHOUT SKIRTS

### "700" SERIES

Can be furnished with co-bored top for dual controls.

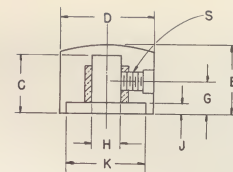
Gloss finish supplied as standard.  
Available in matte finish either by spray paint or vapor blast.

Slotted setscrew standard. Hex socket setscrew available.

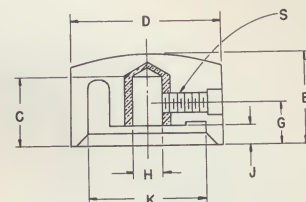
All of these knobs can be furnished with a second setscrew at a 103° angle. This is standard BB operation on these knobs.

(See general information on page 19.)

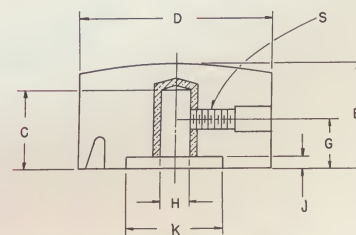
This information also applies to page 2.



4



5



6

dimensions, inches

Cut No.	Part No.	b	c	d	g	h	j	k	s
4	S-767-133L	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{3}{64}$	$\frac{1}{16}$	$\frac{1}{32}$	$\frac{1}{4}$	#2-56
4	S-745-1L S-745-3L S-745-5L S-745-21L	$\frac{7}{16}$	$\frac{3}{8}$ $\frac{3}{8}$ $\frac{3}{8}$ $\frac{5}{16}$	$\frac{5}{8}$	$\frac{7}{32}$	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{8}$	$\frac{1}{16}$	$\frac{9}{16}$	#6-32
4	S-747-1L S-747-3L S-747-4L	$1\frac{1}{32}$	$\frac{1}{2}$ $\frac{1}{2}$ $1\frac{15}{32}$	$1\frac{13}{16}$	$\frac{9}{32}$	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{3}{16}$	$\frac{3}{32}$	$1\frac{1}{16}$	#8-32
4	S-748-1L S-748-3L S-748-21L S-748-103L	$2\frac{1}{32}$	$\frac{1}{2}$ $\frac{1}{2}$ $1\frac{13}{32}$ $\frac{1}{2}$	1	$\frac{9}{32}$	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{3}{16}$	$\frac{3}{32}$	$1\frac{1}{16}$	#8-32 #8-32 #6-32 —
5	†S-742-1 S-742-3	$\frac{3}{4}$	$\frac{5}{8}$ $\frac{9}{16}$	$1\frac{1}{4}$	$1\frac{1}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{3}{32}$	#8-32
5	S-753-1L S-753-3L	$\frac{3}{4}$	$\frac{5}{8}$ $\frac{9}{16}$	$1\frac{1}{4}$	$1\frac{1}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{3}{32}$	#8-32
6	S-749-1L S-749-3L S-749-70L	$\frac{7}{8}$	$1\frac{11}{16}$ $2\frac{21}{32}$ $\frac{5}{8}$	$1\frac{5}{8}$	$1\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$1\frac{3}{16}$	#8-32
6	†S-754-1 S-754-3 S-754-70	$\frac{7}{8}$	$1\frac{11}{16}$ $2\frac{21}{32}$ $\frac{5}{8}$	$1\frac{5}{8}$	$1\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$1\frac{3}{16}$	#8-32
6	†S-771-70	$1\frac{1}{8}$	$1\frac{13}{16}$	$2\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{4}$	$\frac{3}{32}$	$1\frac{3}{16}$	#8-32

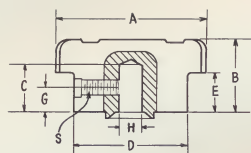
†S-742, S-754 and S-771 have no depressed indicator lines for paint fill. They can be furnished plain or engraved.

For key to suffixes, see page 2.

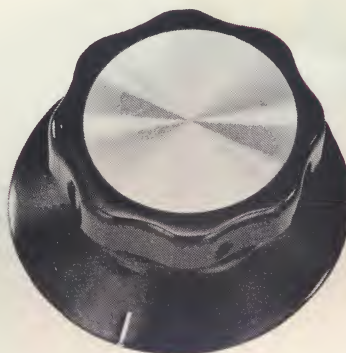


# INSTRUMENT KNOBS WITH DECORATIVE SPUN ALUMINUM INLAYS

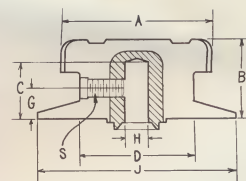
## "1300" SERIES



7



8



dimensions, inches

Cut No.	Part No.	Type Shaft Hole	a	b	c	d	e	g	h	j	s
7	S-1322	3, 5	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{1}{4}$	—	#4-40
	S-1319	3, 64, 70	1	$\frac{5}{8}$	$\frac{7}{16}$	$\frac{3}{4}$	$\frac{11}{32}$	$\frac{7}{32}$	$\frac{1}{4}$	—	#8-32
	S-1308	1, 3, 64, 70, 78	$1\frac{1}{8}$	$\frac{5}{8}$	$\frac{7}{16}, \frac{15}{32}, \frac{7}{16}$	$\frac{13}{16}$	$\frac{11}{32}$	$\frac{7}{32}$	$\frac{3}{16}, \frac{1}{4}$	—	#8-32
	S-1399	1, 4, 73	$1\frac{1}{8}$	$1\frac{1}{16}$	$\frac{7}{16}, \frac{15}{32}, \frac{7}{16}$	$\frac{13}{16}$	$\frac{25}{32}$	$\frac{3}{16}$	$\frac{1}{4}$	—	#8-32
	S-1385	3, 64, 70, 73	$1\frac{3}{8}$	$1\frac{1}{16}$	$\frac{15}{32}, \frac{7}{16}, \frac{15}{32}, \frac{1}{2}$	$1\frac{1}{16}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	—	#10-32
	S-1309	3, 4, 29, 64, 70, 78, 84	$1\frac{5}{8}$	$\frac{3}{4}$	$\frac{15}{32}, \frac{15}{32}, \frac{17}{32}, \frac{1}{2}, \frac{15}{32}, \frac{1}{2}, \frac{9}{16}$	$\frac{13}{16}$	$\frac{13}{32}$	$\frac{1}{4}$	$\frac{1}{4}, \frac{3}{16}$	—	#10-32
	S-1333	64	$1\frac{5}{8}$	$\frac{29}{32}$	$\frac{43}{64}$	1	$\frac{9}{16}$	$\frac{5}{16}$	$\frac{1}{4}$	—	#10-32
	S-1310	3, 64, 70	$2\frac{3}{8}$	$\frac{7}{8}$	$\frac{15}{32}, \frac{43}{64}, \frac{15}{32}$	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	—	#10-32
	S-1320	64	3	$\frac{7}{8}$	$\frac{47}{64}$	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	—	#10-32
8	S-1380	3, 64, 70	$1\frac{1}{8}$	$\frac{13}{16}$	$\frac{19}{32}, \frac{41}{64}, \frac{19}{32}$	$\frac{13}{16}$	—	$\frac{3}{8}$	$\frac{1}{4}$	$1\frac{1}{2}$	#10-32
	S-1381	3, 64, 70	$1\frac{3}{8}$	$\frac{27}{32}$	$\frac{19}{32}, \frac{41}{64}, \frac{19}{32}$	$\frac{7}{8}$	—	$\frac{3}{8}$	$\frac{1}{4}$	$1\frac{3}{4}$	#10-32
	S-1311	3, 64, 70	$1\frac{5}{8}$	$\frac{7}{8}$	$\frac{21}{32}, \frac{41}{64}, \frac{19}{32}$	$\frac{13}{16}$	—	$\frac{3}{8}$	$\frac{1}{4}$	$2\frac{1}{6}$	#10-32
	S-1312	3, 64, 70	$2\frac{3}{8}$	$\frac{15}{16}$	$\frac{21}{32}, \frac{41}{64}, \frac{19}{32}$	$1\frac{7}{8}$	—	$\frac{3}{8}$	$\frac{1}{4}$	3	#10-32



### key to suffixes

- 1 Molded hole to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 3 Flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 4 Flush type brass insert to fit standard  $\frac{3}{16}$ " shaft, with one setscrew.
- 5 Flush type brass insert to fit standard  $\frac{1}{8}$ " shaft, with one setscrew.
- 21 Molded hole to fit standard  $\frac{1}{8}$ " shaft, with one setscrew.
- 29 Push on type to fit standard  $\frac{1}{4}$ " shaft, flatted to .156, with spring.
- 64 Dial type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 70 Heavy duty flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 73 D-shaped hole to fit  $\frac{1}{4}$ " shaft, flatted to .185, with one setscrew.
- 78 Dial type brass insert to fit standard  $\frac{3}{16}$ " shaft, with one setscrew.
- 84 D-shaped hole to fit  $\frac{1}{4}$ " shaft, flatted to .220, with one setscrew.
- 103 Molded hole to fit  $\frac{3}{16}$ " square shaft, with spring.
- 133 Molded hole to fit  $\frac{1}{16}$ " shaft, with one setscrew.
- L Indicator line filled.



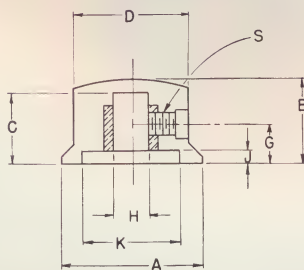
# INSTRUMENT KNOBS

## WITH DECORATIVE SPUN ALUMINUM INLAYS

### "1600" SERIES



9



10

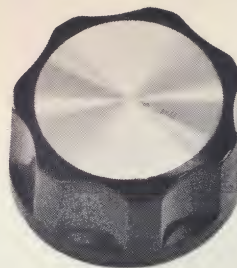
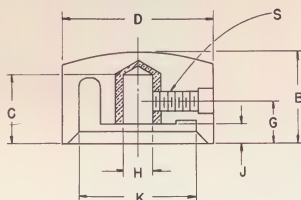
dimensions, inches

Cut No.	Part No.	Type Shaft Hole	a	b	c	d	g	h	j	k	s
9	S-1667	133	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{9}{64}$	$\frac{1}{16}$	$\frac{1}{32}$	$\frac{1}{4}$	#2-56
9	S-1645	1, 3, 5, 21	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{3}{8}, \frac{3}{8}, \frac{3}{8}, \frac{5}{16}$	$\frac{5}{8}$	$\frac{7}{32}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{9}{16}$	#6-32
9	S-1647	1, 3, 4	1	$\frac{19}{32}$	$\frac{1}{2}, \frac{1}{2}, \frac{15}{32}$	$\frac{13}{16}$	$\frac{9}{32}$	$\frac{1}{4}, \frac{1}{4}, \frac{3}{16}$	$\frac{3}{32}$	$\frac{11}{16}$	#8-32
9	S-1648	1, 3, 21	$1\frac{1}{4}$	$2\frac{1}{32}$	$\frac{1}{2}, \frac{1}{2}, \frac{13}{32}$	1	$\frac{9}{32}$	$\frac{1}{4}, \frac{1}{4}, \frac{1}{8}$	$\frac{3}{32}$	$\frac{11}{16}$	#8-32, #6-32
10	S-1642	1, 3	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}, \frac{9}{16}$	$1\frac{1}{4}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{31}{32}$	#8-32
9	S-1653	1, 3	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}, \frac{9}{16}$	$1\frac{1}{4}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{31}{32}$	#8-32
9	S-1649	1, 3, 70	2	$\frac{7}{8}$	$1\frac{1}{16}, 2\frac{1}{32}, \frac{5}{8}$	$1\frac{5}{8}$	$\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{13}{16}$	#8-32
10	S-1654	1, 3, 70	2	$\frac{7}{8}$	$1\frac{1}{16}, 2\frac{1}{32}, \frac{5}{8}$	$1\frac{5}{8}$	$\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{13}{16}$	#8-32
10	S-1671	70	3	$1\frac{1}{8}$	$\frac{13}{16}$	$2\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{13}{16}$	#8-32

### "1700" SERIES



11



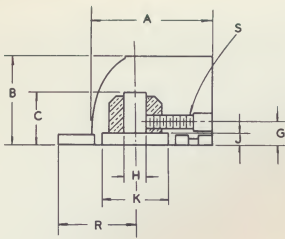
12

dimensions, inches

Cut No.	Part No.	Type Shaft Hole	b	c	d	g	h	j	k	s
11	S-1767	133	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{9}{64}$	$\frac{1}{16}$	$\frac{1}{32}$	$\frac{1}{4}$	#2-56
11	S-1745	1, 3, 5, 21	$\frac{7}{16}$	$\frac{3}{8}, \frac{3}{8}, \frac{3}{8}, \frac{5}{16}$	$\frac{5}{8}$	$\frac{7}{32}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{9}{16}$	#6-32
11	S-1747	1, 3, 4	$\frac{19}{32}$	$\frac{1}{2}, \frac{1}{2}, \frac{15}{32}$	$\frac{13}{16}$	$\frac{9}{32}$	$\frac{1}{4}, \frac{1}{4}, \frac{3}{16}$	$\frac{3}{32}$	$\frac{11}{16}$	#8-32
11	S-1748	1, 3, 21	$2\frac{1}{32}$	$\frac{1}{2}, \frac{1}{2}, \frac{13}{32}$	1	$\frac{9}{32}$	$\frac{1}{4}, \frac{1}{4}, \frac{1}{8}$	$\frac{3}{32}$	$\frac{11}{16}$	#8-32, #6-32
12	S-1742	1, 3	$\frac{3}{4}$	$\frac{5}{8}, \frac{9}{16}$	$1\frac{1}{4}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{31}{32}$	#8-32
11	S-1753	1, 3	$\frac{3}{4}$	$\frac{5}{8}, \frac{9}{16}$	$1\frac{1}{4}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{31}{32}$	#8-32
11	S-1749	1, 3, 70	$\frac{7}{8}$	$1\frac{1}{16}, 2\frac{1}{32}, \frac{5}{8}$	$1\frac{5}{8}$	$\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{13}{16}$	#8-32
12	S-1754	1, 3, 70	$\frac{7}{8}$	$1\frac{1}{16}, 2\frac{1}{32}, \frac{5}{8}$	$1\frac{5}{8}$	$\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{13}{16}$	#8-32
12	S-1771	70	$1\frac{1}{8}$	$\frac{13}{16}$	$2\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{13}{16}$	#8-32

For key to suffixes, see page 4.

# MILITARY KNOBS

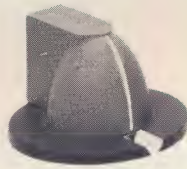


**MS-25170P2A  
assembly**

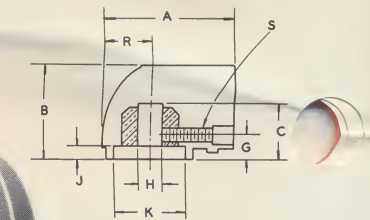
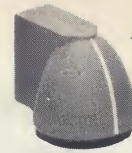
Knob, phenolic, painted dark gull gray, matte finish.  
Skirt, black phenolic, matte finish.

**MS-25170P2B**

Skirt and Knob phenolic, painted black, matte finish.



**MS-25164 Type IV Skirt**  
Black, phenolic, matte finish.



**MS-25170P1A knob**

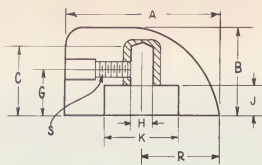
Phenolic, painted dark gull gray, matte finish.

**MS-25170P1B**

Phenolic, painted black, matte finish.



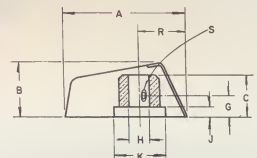
**AN-3220-1  
AN-3220-2  
AN-3220-3**



Black phenolic,  
sand blast finish.



**AN-3219-1**

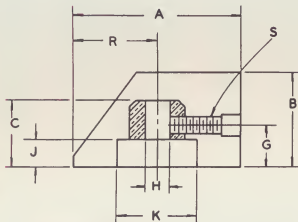


**MS-90120-2B01**

Black phenolic, semi-gloss finish.

**MS-90120-2G01**

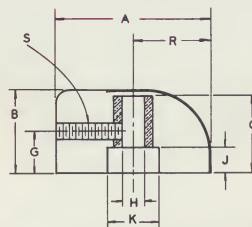
Gray phenolic, matte finish.



**MS-25166-1**

Acrylic painted gray to MIL-P-7788,  
matte finish.

Available also, painted black matte  
finish.



**NAS-539-1C  
NAS-539-1B**

Acrylic painted black to MIL-P-7788,  
matte finish.

dimensions, inches

Military No.	Kurz-Kasch No.	a	b	c	g	h	j	k	r	s
MS-25170P1A MS-25170P1B	S-664-123L knob	1 $\frac{3}{16}$	2 $\frac{7}{32}$	$\frac{1}{2}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{7}{64}$	2 $\frac{1}{32}$	$\frac{7}{16}$	1-#8-32
MS-25164	S-665 skirt									
MS-25170P2A MS-25170P2B	S-8154 assembly	1 $\frac{3}{16}$	2 $\frac{7}{32}$	$\frac{1}{2}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{7}{64}$	2 $\frac{1}{32}$	$\frac{3}{4}$	1-#8-32
MS-25166-1	S-661-123L	1 $\frac{1}{2}$	2 $\frac{7}{32}$	1 $\frac{9}{32}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	2 $\frac{3}{32}$	$\frac{3}{4}$	1-#8-32
MS-90120-2B01 MS-90120-2B02 MS-90120-2G01 MS-90120-2G02	S-669-138-BB-L	1 $\frac{15}{32}$	2 $\frac{1}{32}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{5}{8}$	$\frac{9}{16}$	2-#6-32
NAS-539-1C NAS-539-1B	S-660-3L-BB S-660-123L	1 $\frac{1}{4}$	5 $\frac{1}{64}$	4 $\frac{7}{64}$	1 $\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{5}{8}$	2-#8-32 1-#8-32
AN-3219-1	S-292-3L-A	1 $\frac{1}{4}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{9}{32}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{5}{8}$	$\frac{5}{8}$	1-#8-32
AN-3220-1 AN-3220-2 AN-3220-3	S-246-1L-BB-A S-246-84-L-A S-246-84-L-A-UU	1 $\frac{1}{2}$	$\frac{7}{8}$	2 $\frac{3}{32}$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{7}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	2 $\frac{3}{32}$	$\frac{3}{4}$	2-#8-32 1-#8-32 1-#8-32



## key to suffixes

- 1 Molded hole to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 3 Flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 84 D-shaped hole to fit  $\frac{1}{4}$ " shaft, flattened to .220, with one setscrew.
- 123 D-shaped brass insert to fit  $\frac{1}{4}$ "

shaft, flattened to .220, with one setscrew.

- 138 Brass insert with drive slot, to fit standard  $\frac{1}{4}$ " shaft.
- A Sand blast dull finish.
- L Indicator line filled.
- BB Add second setscrew.
- UU Special setscrew location from bottom of knob.



# MILITARY KNOBS

## MS-91531

MADE TO MEET MILITARY SPECIFICATIONS  
MIL-K-3926 and MIL-M-14F(CFG)



Plain knob

**MS-91531-1N1B**  
**1N2B**  
**2N2B**  
**3N2B**  
**4N2B**



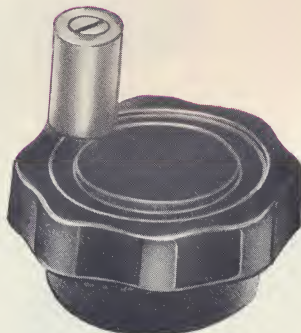
Plain knob with attached pointer

**MS-91531-1P1B**  
**1P2B**  
**2P2B**  
**3P2B**  
**4P2B**



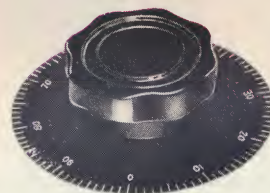
Knob with integrally molded skirt

**MS-91531-1F1B**  
**1F2B**  
**2F2B**  
**3F2B**  
**4F2B**



Plain knob with crank handle

**MS-91531-3B2B**  
**4B2B**



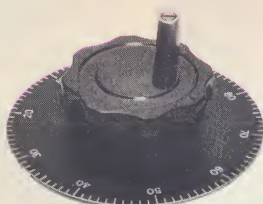
Plain knob with dial

**MS-91531-1H1B**  
**1H2B**  
**1T1B**  
**1T2B**  
**1A1B**  
**1A2B**  
**1S1B**  
**1S2B**  
**1Q1B**  
**1Q2B**  
**1C1B**  
**1C2B**



Knob with integrally molded skirt with indicator slot.

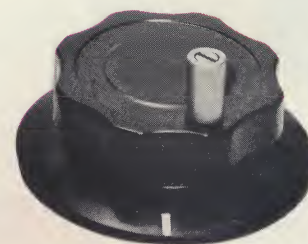
**MS-91531-101B**  
**102B**  
**202B**  
**302B**  
**402B**



Plain knob with crank handle and dial

**MS-91531-4J2B**  
**4K2B**  
**4L2B**  
**4M2B**  
**4G2B**  
**4R2B**

**MS-91531-2H2B**  
**2T2B**  
**2A2B**  
**2S2B**  
**2Q2B**  
**2C2B**  
**3H2B**  
**3T2B**  
**3A2B**  
**3S2B**  
**3Q2B**  
**3C2B**  
**4H2B**  
**4T2B**  
**4A2B**  
**4S2B**  
**4Q2B**  
**4C2B**



Knob with integrally molded skirt and crank handle with indicator line.

**MS-91531-4V2B**

Knob with integrally molded skirt and crank handle with indicator slot.

**MS-91531-4W2B**

### Suffix Code

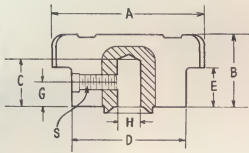
B—Black matte finish  
M—Black semi-gloss finish  
G—Grey matte finish



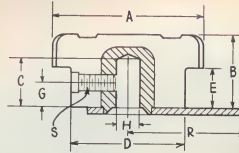
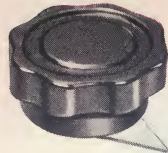


# INSTRUMENT KNOBS HEAVY DUTY

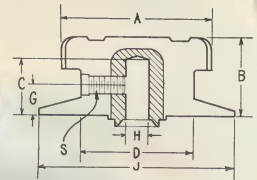
## "300" SERIES



13



pointers — see page 14



14

dimensions, inches

Cut No.	Part No.	Type Shaft Hole	a	b	c	d	e	g	h	j	s
13	S-322	3, 5	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{5}{32}$	$\frac{1}{4}$	—	#4-40
	S-319	3, 64, 70	1	$\frac{5}{8}$	$\frac{7}{16}$	$\frac{3}{4}$	$\frac{11}{32}$	$\frac{7}{32}$	$\frac{1}{4}$	—	#8-32
	S-308	1, 3, 64, 70, 78	$1\frac{1}{8}$	$\frac{5}{8}$	$\frac{7}{16}, \frac{15}{32}, \frac{7}{16}$	$\frac{13}{16}$	$\frac{11}{32}$	$\frac{7}{32}$	$\frac{3}{16}, \frac{1}{4}$	—	#8-32
	S-399	1, 4, 73	$1\frac{1}{8}$	$1\frac{1}{16}$	$\frac{7}{16}, \frac{15}{32}, \frac{7}{16}$	$\frac{13}{16}$	$\frac{25}{32}$	$\frac{3}{16}$	$\frac{1}{4}$	—	#8-32
	S-385	3, 64, 70, 73	$1\frac{3}{8}$	$1\frac{1}{16}$	$\frac{15}{32}, \frac{7}{16}, \frac{15}{32}, \frac{1}{2}$	$1\frac{1}{16}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	—	#10-32
	S-309	3, 4, 29, 64, 70, 78, 84	$1\frac{5}{8}$	$\frac{3}{4}$	$\frac{15}{32}, \frac{15}{32}, \frac{17}{32}, \frac{1}{2}, \frac{15}{32}, \frac{1}{2}, \frac{9}{16}$	$1\frac{3}{16}$	$1\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{4}, \frac{3}{16}$	—	#10-32
	S-333	64	$1\frac{5}{8}$	$\frac{29}{32}$	$\frac{43}{64}$	1	$\frac{9}{16}$	$\frac{5}{16}$	$\frac{1}{4}$	—	#10-32
	S-310	3, 64, 70	$2\frac{3}{8}$	$\frac{7}{8}$	$\frac{15}{32}, \frac{43}{64}, \frac{15}{32}$	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	—	#10-32
	S-320	64	3	$\frac{7}{8}$	$\frac{47}{64}$	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	—	#10-32
14	S-380	3, 64, 70	$1\frac{1}{8}$	$\frac{13}{16}$	$\frac{19}{32}, \frac{41}{64}, \frac{19}{32}$	$\frac{13}{16}$	—	$\frac{3}{8}$	$\frac{1}{4}$	$1\frac{1}{2}$	#10-32
	S-381	3, 64, 70	$1\frac{3}{8}$	$\frac{27}{32}$	$\frac{19}{32}, \frac{41}{64}, \frac{19}{32}$	$\frac{7}{8}$	—	$\frac{3}{8}$	$\frac{1}{4}$	$1\frac{3}{4}$	#10-32
	S-311	3, 64, 70	$1\frac{5}{8}$	$\frac{7}{8}$	$\frac{21}{32}, \frac{41}{64}, \frac{19}{32}$	$\frac{13}{16}$	—	$\frac{3}{8}$	$\frac{1}{4}$	$2\frac{1}{16}$	#10-32
	S-312	3, 64, 70	$2\frac{3}{8}$	$1\frac{5}{16}$	$\frac{19}{32}, \frac{41}{64}, \frac{19}{32}$	$1\frac{7}{8}$	—	$\frac{3}{8}$	$\frac{1}{4}$	3	#10-32

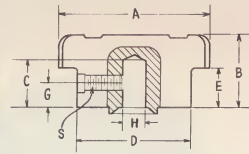
Also made to specification MS-91531 and procurement specification MIL-K-3926. See page 6.

Non-skirted knobs can be furnished with threaded shafts. See page 14.

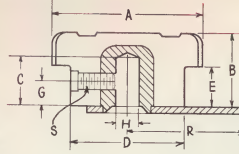
Special operations available—No tooling—see page 19.

# INSTRUMENT KNOBS HEAVY DUTY

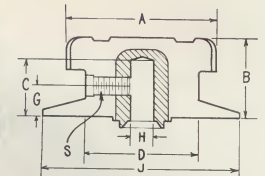
## "400" SERIES



15



pointers — see page 14



16

dimensions, inches

Cut No.	Part No.	Type Shaft Hole	a	b	c	d	e	g	h	j	s
15	S-483	3, 64, 70, 78	$1\frac{1}{8}$	$1\frac{1}{16}$	$\frac{15}{32}, \frac{7}{16}, \frac{7}{16}, \frac{7}{16}$	$\frac{13}{16}$	$\frac{11}{32}$	$\frac{7}{32}$	$\frac{3}{16}, \frac{1}{4}$	—	#8-32
	S-481	3, 4, 64, 70, 78	$1\frac{5}{8}$	$\frac{13}{16}$	$\frac{17}{32}, \frac{1}{2}, \frac{1}{2}, \frac{15}{32}, \frac{1}{2}$	$\frac{13}{16}$	$\frac{13}{32}$	$\frac{1}{4}$	$\frac{3}{16}, \frac{1}{4}$	—	#10-32
	S-482	3, 64, 70	$2\frac{3}{8}$	$\frac{15}{16}$	$\frac{17}{32}, \frac{43}{64}, \frac{15}{32}$	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	—	—	#10-32
16	S-489	3, 64, 70	$1\frac{5}{8}$	$1\frac{5}{16}$	$\frac{21}{32}, \frac{41}{64}, \frac{19}{32}$	$\frac{13}{16}$	—	$\frac{3}{8}$	$\frac{1}{4}$	$2\frac{1}{16}$	#10-32

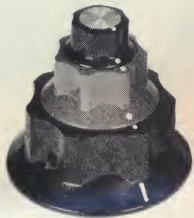
### key to suffixes

- 1 Molded hole to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 3 Flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 4 Flush type brass insert to fit  $\frac{3}{16}$ " shaft, with one setscrew.
- 29 Push on type to fit standard  $\frac{1}{4}$ " shaft flattened to .156, with spring.
- 64 Dial type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 70 Heavy duty flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 73 D-shaped hole to fit  $\frac{1}{4}$ " shaft, flattened to .185, with one setscrew.
- 78 Dial type brass insert to fit standard  $\frac{3}{16}$ " shaft, with one setscrew.
- 84 D-shaped hole to fit  $\frac{1}{4}$ " shaft, flattened to .220, with one setscrew.
- L Indicator line filled.

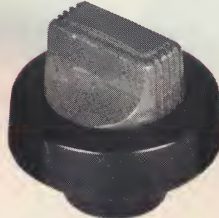




# CONTROL KNOBS FOR CONCENTRIC SHAFTS



S-1645  
S-648  
S-649



S-453  
S-635



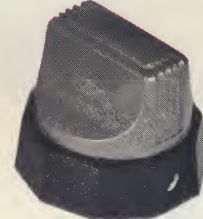
S-645  
S-656  
S-264



S-647  
S-653



S-1647  
S-7845



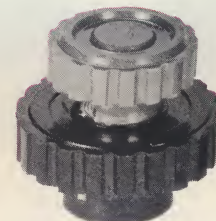
S-453  
S-264



S-1645  
S-648



S-647  
S-264



S-78  
S-68



S-645  
S-319



S-645  
S-656



S-645  
S-308 MOD.

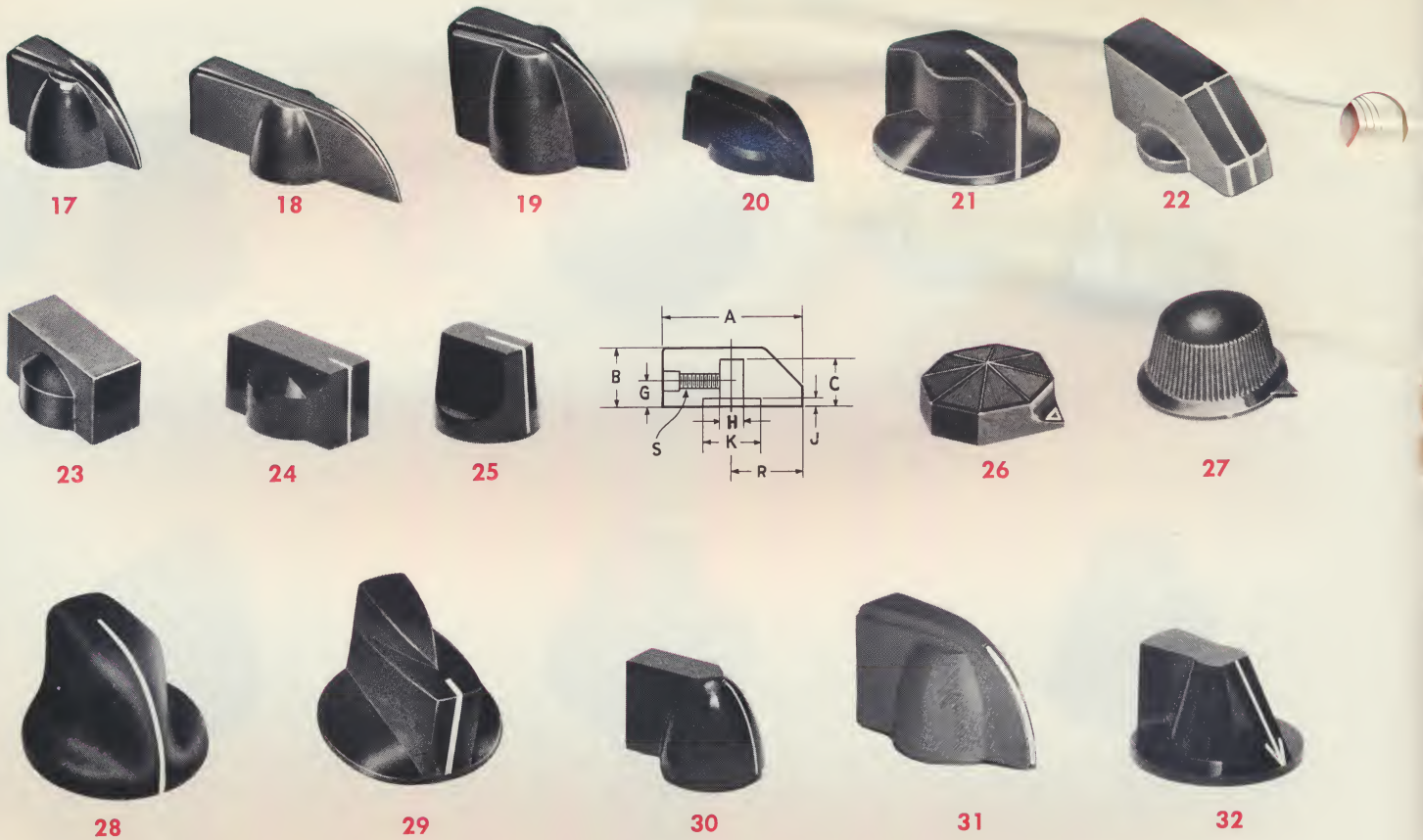
The above illustrations depict only a few of the many combinations which can be made with Kurz-Kasch knobs without extra tooling. Bring your knob problems to us. Together we will design the combination to fit your application.

Standard shaft hole sizes on triple control knobs are 1/8", 1/4", and 3/8", respectively. Dual control knobs supplied standard with 1/8" and 1/4" shaft hole sizes respectively.

Special shaft hole sizes to order.



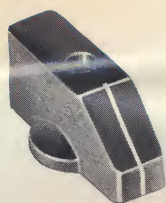




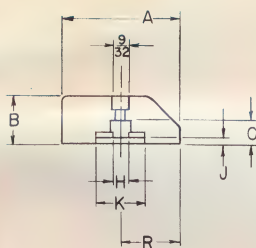
dimensions, inches

Cut No.	Part No.	a	b	c	g	Type Hole h	j	k	r
17	S-292	1 1/4	5/8	1/2	5/16	1, 3, 4, 21, 29 35, 72	3/32	5/8	5/8
18	S-293	2 1/4	5/8	1/2	1/4	1, 3, 4, 29	3/32	5/8	1 1/8
19	S-246	1 1/2	7/8	23/32	1/2	1, 3, 103, 84	5/16	23/32	3/4
20	S-668	1 3/32	37/64	3/8	1/4	1	—	—	41/64
21	S-657	1 1/8	5/8	1/2	1/4	1, 3	3/32	11/16	9/16
22	S-626	1 1/2	5/8	1/2	3/32	1	3/32	5/8	3/4
23	S-641	1 1/4	21/32	1/2	1/4	3, 64	3/32	5/8	5/8
24	S-640	1 1/4	21/32	1/2	1/4	3, 4, 7	3/32	5/8	5/8
25	S-400	1 5/16	3/4	5/8	3/8	1, 146, 147, 148	1/8	3/4	15/32
26	S-148	1 5/16	25/64	19/64	9/64	1	—	—	21/32
27	S-235	1 1/8	9/16	7/16	7/32	1, 64	1/16	7/8	11/16
28	S-660	1 1/4	51/64	47/64	13/32	3, 123	1/4	1/2	5/8
29	S-658	1 1/8	11/16	1/2	1/4	1, 21, 126, 141	3/32	5/8	9/16
30	S-664	1 3/16	27/32	1/2	7/32	3, 123	7/64	21/32	7/16
31	S-666	1 15/32	7/8	23/32	1/2	3	11/32	23/32	23/32
32	S-661	1 1/2	27/32	19/32	3/8	3, 123	1/4	23/32	3/4
33	S-626	1 1/2	5/8	5/16	—	79	3/32	5/8	3/4
34	S-292	1 1/4	5/8	5/16	—	79	3/32	5/8	5/8
35	S-659	1 1/2	49/64	5/8	13/32, 13/32, 11/32	3, 84, 123	7/32	23/32	3/4
35	S-670	2 1/4	25/32	5/8	11/32	123	7/32	23/32	13/16
36	S-669	1 15/32	21/32	1/2	1/4	138	1/8	5/8	9/16
37	S-8314	1 1/8	41/64	17/32	1/2	1, 29	—	—	9/16
38	S-321	2 1/8	5/8	1/2	1/4	1	3/32	5/8	1 1/16
39	S-8154	1 3/16	27/32	1/2	7/32	123	7/64	21/32	3/4
40	S-662	1	27/32	13/32	1/4	64	—	—	5/8
41	S-8594	1 3/4	7/8	23/32	1/2	1, 3	5/16	23/32	7/8
42	S-8844	1 5/16	1	9/16	1/4	3	1/16	5/16	15/32





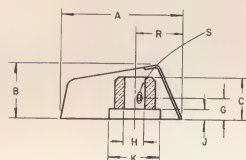
33



34



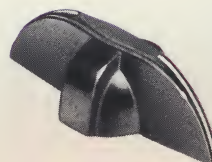
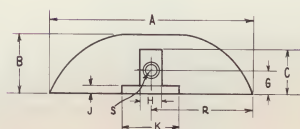
35



36



37



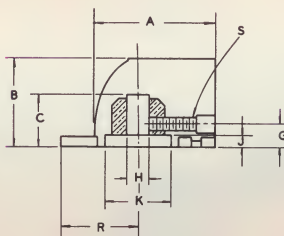
38



39



40



41



42

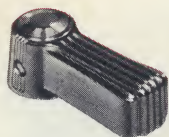
## key to suffixes

- 1 Molded hole to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 3 Flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 4 Flush type brass insert to fit  $\frac{3}{16}$ " shaft, with one setscrew.
- 7 Push on type to fit standard  $\frac{1}{4}$ " shaft, flatted to .156, with spring.
- 21 Molded hole to fit standard  $\frac{1}{8}$ " shaft, with one setscrew.
- 29 Push on type to fit standard  $\frac{1}{4}$ " shaft, flatted to .156, with spring.
- 35 Push on type to fit standard  $\frac{1}{4}$ " straight knurled split shaft.
- 64 Dial type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 72 D-shaped hole to fit standard  $\frac{1}{4}$ " shaft, flatted to .212, with one setscrew.
- 79 With counterbore on top for mounting screw and keyed counterbore in bottom, for positive drive.
- 84 D-shaped hole to fit  $\frac{1}{4}$ " shaft, flatted to .220, with one setscrew.
- 103 Molded hole to fit  $\frac{3}{16}$ " square shaft, with spring.
- 123 D-shaped brass insert to fit  $\frac{1}{4}$ " shaft, flatted to .220, with one setscrew.
- 126 Push on type to fit .080 x  $\frac{3}{16}$ " flatted shaft, with spring.
- 138 Brass insert with drive slot, to fit standard  $\frac{1}{4}$ " shaft, with two setscrews.
- 141 D-shaped hole to fit standard  $\frac{1}{8}$ " shaft, flatted to .087, with one set screw.
- 146 Spring type hole to fit  $\frac{3}{16}$ " shaft flatted to .156, includes spring.
- 147 Spring type hole to fit  $\frac{1}{4}$ " shaft flatted to .220, includes spring.
- 148 Spring type hole to fit  $\frac{1}{4}$ " shaft flatted to .220, includes one setscrew.
- L Indicator line filled.





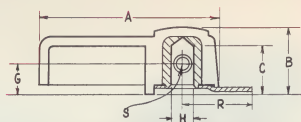
## LEVER KNOBS



S-6844



S-6844-64-40250



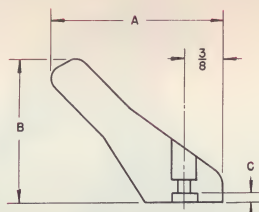
S-6844-64-40250

dimensions, inches

Part No.	a	b	c	d	e	g	j	k	type hole h	r	s
S-6844	1 $\frac{3}{4}$	$\frac{5}{8}$	1 $\frac{7}{32}$	—	—	$\frac{1}{4}$	—	—	-1, -29, -64, -78, -110	—	#8-32
S-6844-64- 40250	1 $\frac{3}{4}$	$\frac{5}{8}$	1 $\frac{7}{32}$	—	—	$\frac{1}{4}$	—	—	—	1 $\frac{1}{16}$	#8-32
S-6546	2 $\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	—	2 $\frac{3}{32}$	—	$\frac{3}{32}$	$\frac{5}{8}$	-121	2 $\frac{1}{32}$	—
S-8510	1 $\frac{11}{16}$	1 $\frac{1}{16}$	$\frac{3}{32}$	—	—	—	—	—	-122	—	—

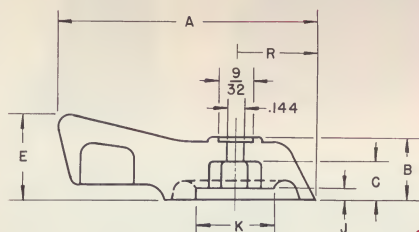


S-8510

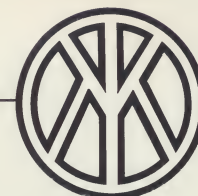


### key to suffixes

- 1 Molded hole to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 29 Push on type to fit standard  $\frac{1}{4}$ " shaft, flatted to .156, with spring.
- 30 Push on type to fit .052 x  $\frac{3}{16}$ " flatted shaft, with spring.
- 64 Dial type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 64-40250—Dial type brass insert to fit  $\frac{1}{4}$ " shaft, with one setscrew, and nickel plated brass pointer with  $\frac{1}{16}$ " radius.
- 78 Dial type brass insert to fit standard  $\frac{3}{16}$ " shaft, with one setscrew.
- 110 D-shaped hole to fit  $\frac{3}{16}$ " shaft, flatted to .156, with one setscrew.
- 112 Molded hole to fit .166 shaft, with  $\frac{3}{16}$ " x  $\frac{1}{32}$ " deep counterbore, molded in.
- 121 Hex shaft hole with locking screw hole through top.
- 122 Square shaft hole with locking screw hole through top.
- L Indicator line filled.



S-6546



## PUSH BUTTONS



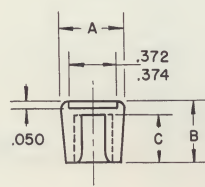
42



BOTTOM  
VIEW



43



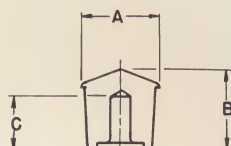
44



45



46



47



S-343-30L



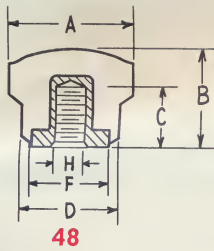
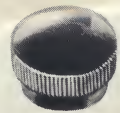
ENGRAVED PUSHBUTTONS  
AVAILABLE ON SPECIAL ORDERS.

dimensions, inches

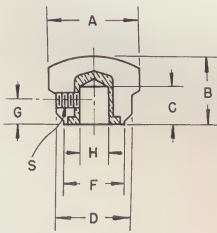
Cut No.	Part No.	a	b	c	Plain or as noted
42	S-328-30	$\frac{1}{2}$	1 $\frac{5}{32}$	$\frac{3}{8}$	—
43	S-332-30	$\frac{1}{2}$	1 $\frac{5}{32}$	$\frac{3}{8}$	counterbore in top
44	S-330-30	$\frac{7}{16}$	1 $\frac{5}{32}$	$\frac{3}{8}$	—
45	S-343-30	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{3}{8}$	—
46	S-345-30	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{3}{8}$	counterbore in top
47	S-644-112	$\frac{1}{2}$	3 $\frac{3}{64}$	1 $\frac{1}{32}$	—



# MISCELLANEOUS KNOBS



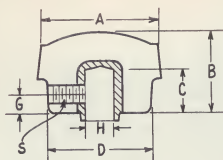
48



49

Cut No.	Part No.	a	b	c	dimensions, inches			insert	s
					d	f	h		
48	S-222-1	1/2	7/16	9/32	3/8	—	#6-32	no flange	—
	S-222-2						#8-32	no flange	
	S-222-3						#10-32	no flange	
	S-222-11						#3-56	no flange	
	S-222-14F						#8-32	none	
	S-222-15G						#6-32	none	
	S-222-16AA						#10-32	none	
48	S-82-1	5/8	17/32	5/16	31/64	7/16	#6-32	flanged	—
	S-82-2						#8-32	flanged	
	S-82-3						#10-32	flanged	
	S-82-11						#3-56	no flange	
	S-82-14F						#8-32	none	
	S-82-15G						#6-32	none	
	S-82-16AA						#10-32	none	
49	S-82-18-CC-A	5/8	17/32	3/8	31/64	7/16	1/8	flanged	#6-32
	S-82-18-H-M						3/16	flanged	
	S-82-18-B-M						1/4	flanged	
48	S-76-8	3/4	9/16	5/16	5/8	1/2	#10-32	no flange	—
	S-76-18F			5/16			#8-32	flanged	
	S-76-18S			5/16			#10-32	flanged	
	S-76-18T			5/16			#14-20	flanged	
	S-76-18U			3/8			#14-24	flanged	
	S-76-18Y			5/16			1/4-20	flanged	
	S-76-18Z			3/8			.166	flanged	
	S-76-16AA			5/16			#10-32	none	
49	S-76-18-CC-A	3/4	9/16	3/8	5/8	1/2	1/8	flanged	#6-32
	S-76-18-H-M						3/16	flanged	
	S-76-18-B-M						1/4	flanged	

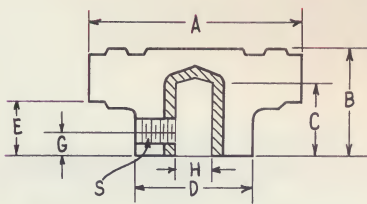
50



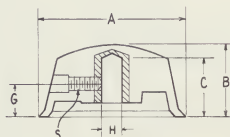
51



52



53



dimensions, inches

Cut No.	Part No.	a	b	c	d	e	g	h	engraving	s
53	S-230-7AA	$\frac{3}{4}$	$\frac{9}{16}$	$\frac{15}{32}$	—	—	$\frac{15}{64}$	$\frac{1}{4}$	none	#8-32
	S-230-7			$\frac{13}{32}$				$\frac{1}{4}$		
	S-230-64			$\frac{13}{32}$				$\frac{1}{4}$		
	S-230-78			$\frac{7}{16}$				$\frac{3}{16}$		
50	S-52-78	1	$\frac{21}{32}$	$\frac{7}{16}$	$\frac{7}{8}$	$\frac{5}{16}$	$\frac{5}{32}$	$\frac{3}{16}$	none	#6-32
	S-52-64							$\frac{1}{4}$		
51	S-78-3	1	$\frac{5}{8}$	$\frac{13}{32}$	$\frac{17}{32}$	$\frac{19}{64}$	$\frac{5}{32}$	$\frac{1}{4}$	none	#6-32
	S-78-4							$\frac{3}{16}$		
53	S-17-1L	$\frac{1}{8}$	$\frac{9}{16}$	$\frac{7}{16}$	—	—	$\frac{1}{4}$	$\frac{1}{4}$	→	#8-32
	S-17-64L							$\frac{1}{4}$		
53	S-54-1	$\frac{1}{8}$	$\frac{9}{16}$	$\frac{7}{16}$	—	—	$\frac{1}{4}$	$\frac{1}{4}$	none	#8-32
	S-54-64							$\frac{1}{4}$		
51	S-81-3	$\frac{1}{8}$	$\frac{11}{16}$	$\frac{15}{32}$	$\frac{3}{4}$	$\frac{5}{16}$	$\frac{5}{32}$	$\frac{1}{4}$	none	#8-32
	S-81-136							$\frac{1}{4}$		
53	S-18-1L	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}$	—	—	$\frac{11}{32}$	$\frac{1}{4}$	→	#8-32
	S-18-3L							$\frac{1}{4}$		
53	S-5446-1	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}$	—	—	$\frac{11}{32}$	$\frac{1}{4}$	none	#8-32
	S-6446-3							$\frac{1}{4}$		
	S-5446-29							$\frac{1}{4}$		
53	S-6537-1L	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}$	—	—	$\frac{11}{32}$	$\frac{1}{4}$	off on	#8-32
	S-6537-3L							$\frac{1}{4}$		
51	S-68-3	$\frac{13}{4}$	$\frac{7}{8}$	$\frac{15}{32}$	$\frac{7}{8}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	none	#8-32
	S-68-70			$\frac{17}{32}$				$\frac{1}{4}$		
52	S-618-3L	$\frac{13}{4}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{7}{8}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	→	#8-32

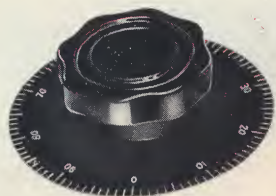
## key to suffixes

- 1 Molded hole to fit standard  $\frac{1}{4}$ " shaft with one setscrew.
- 3 Flush type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 4 Flush type brass insert to fit  $\frac{3}{16}$ " shaft, with one setscrew.
- 7 Push on type to fit standard  $\frac{1}{4}$ " shaft, flatted to .156, with spring.
- 7AA Molded spring type hole to fit standard  $\frac{1}{4}$ " shaft, with setscrew.
- 29 Push on type to fit standard  $\frac{1}{4}$ " shaft, flatted to .156, with spring.
- 64 Dial type brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 70 Heavy duty flush brass insert to fit standard  $\frac{1}{4}$ " shaft, with one setscrew.
- 78 Dial type brass insert to fit standard  $\frac{3}{16}$ " shaft, with one setscrew.
- 136 Brass insert tapped #10-32.
- L Indicator line filled.

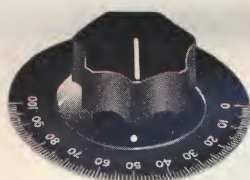




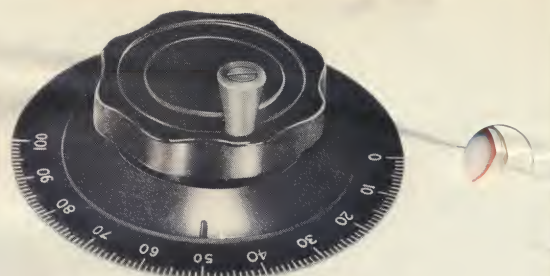
## DIAL INDICATOR ASSEMBLIES



SD-309



SD-648



SCHD-312

Dials available in various sizes, made of heavy grade aluminum with satin or black anodize finish. Sizes, calibrations, and other information too numerous to list. Write for complete information.

All knob and dial assemblies made with flush-type brass bushings, complete with one slotted-head set-screw. (Specify socket-head if required.)

Dials can be assembled to the following knobs:

S-309 see  
S-310 page 8  
S-311 for  
S-312 dimen-  
S-385 sions  
S-380  
S-381

S-648 see  
S-649 pages  
S-654 2 & 3  
S-671 for  
S-748 dimen-  
S-749 sions  
S-754  
S-771

## POINTER ASSEMBLIES




S-308-64  
S-309-64 S-481-64  
S-310-64 S-482-64  
S-319-64 S-483-64  
S-385-64



Dimensions for  
these parts  
found on page 8

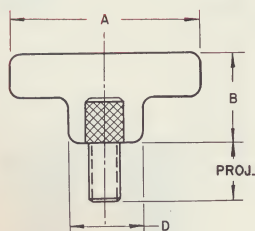
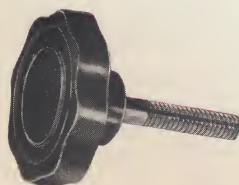
Nickel plated brass or white Vinylite pointers available on above instrument knobs. Dimensions "r" ranges from  $\frac{5}{8}$ " to  $1\frac{1}{16}$ ". Assembled by spinning over the .64 protruding insert.

To obtain the correct part number for ordering knobs with pointer add as a suffix the pointer number desired to the base part number. For example: the part number for S-385-64 with a  $\frac{7}{8}$ " Vinylite pointer will be S-385-64-40269.

"r"	Material	Number								
			S-308-64	S-309-64	S-310-64	S-319-64	S-385-64	S-481-64	S-482-64	S-483-64
$\frac{5}{8}$ "	Brass Ni. Pl.	40274	*			*				*
	Vinylite	40275	*			*				*
$\frac{3}{4}$ "	Brass Ni. Pl.	40281	*			*	*			*
	Vinylite	40282	*			*	*			*
$\frac{7}{8}$ "	Brass Ni. Pl.	40268	*	*		*	*	*		*
	Vinylite	40269	*	*		*	*	*		*
$1\frac{1}{16}$ "	Vinylite	40260	*	*	*	*	*	*	*	*
	Brass Ni. Pl.	40261	*	*	*	*	*	*	*	*
$1\frac{3}{16}$ "	Brass Ni. Pl.	40263	*	*	*	*	*	*	*	*
	Vinylite	40264	*	*	*	*	*	*	*	*
$1\frac{1}{4}$ "	Brass Ni. Pl.	40277	*	*	*	*		*	*	*
	Vinylite	40278	*	*	*	*		*	*	*
$1\frac{1}{8}$ "	Brass Ni. Pl.	40290			*			*		
	Vinylite	40291			*			*		
$1\frac{11}{16}$ "	Vinylite	40258			*					

Brass Pointers No. 20 B & S Gauge .032" thick, vinylite .040" to .050" thick

## THREADED SHAFT KNOBS



In addition to the threaded shafts listed for the above design, some threaded shafts are also available for the following knobs: S-52, S-68, S-81, S-222, S-282, S-308, S-309, S-310, S-385, S-450, S-482.

dimensions, inches

Part No.	a	b	d	thread	proj.
S-655-118				$\frac{1}{4}$ -20	$\frac{3}{8}$
S-655-65				$\frac{1}{4}$ -20	$\frac{1}{2}$
S-655-58				$\frac{1}{4}$ -20	$\frac{7}{8}$
S-655-36				$\frac{1}{4}$ -20	$1\frac{1}{8}$
S-655-119				$\frac{1}{4}$ -20	$1\frac{1}{4}$
S-655-117				$\frac{1}{4}$ -20	$1\frac{3}{8}$
S-655-40	$1\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{1}{4}$ -20	$1\frac{7}{8}$
S-655-42				$\frac{5}{16}$ -18	$\frac{3}{8}$
S-655-62				$\frac{5}{16}$ -18	$\frac{1}{2}$
S-655-90				$\frac{5}{16}$ -18	$\frac{5}{8}$
S-655-67				$\frac{5}{16}$ -18	$\frac{3}{4}$
S-655-128				$\frac{5}{16}$ -18	$1\frac{3}{4}$
S-617-74	$2\frac{3}{8}$	$1\frac{1}{16}$	$\frac{3}{4}$	$\frac{3}{8}$ -24	$2\frac{1}{4}$
S-704-74					





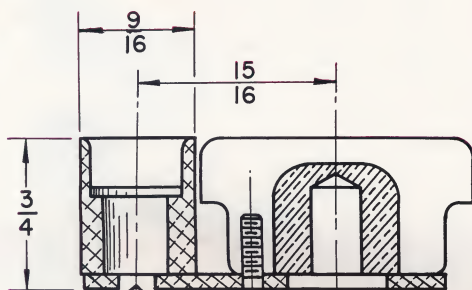
## SPINNER KNOBS



S-8133 (basic knob S-309)



S-8132 (basic knob S-385)



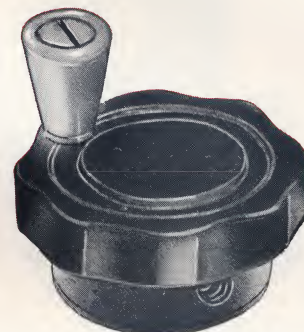
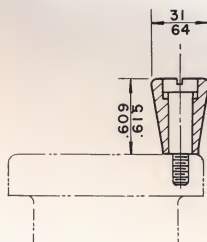
Spinner made of heavy gauge aluminum, black anodized.

Crank handles can be assembled to the following knobs:

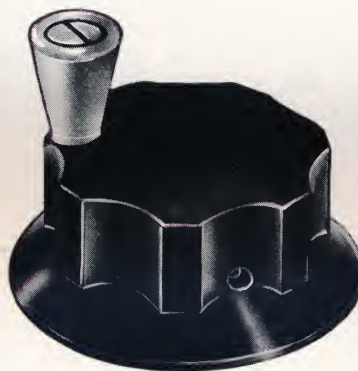
SCH-309, SCH-310, SCH-311, SCH-312, SCH-380, SCH-381, SCH-385, SCH-654, SCH-671, SCH-771, SCH-754.

See pages 2, 3, & 8 for knob dimensions. Above items can be furnished in accordance with MIL-K-3926.

## CRANK HANDLE KNOB ASSEMBLIES



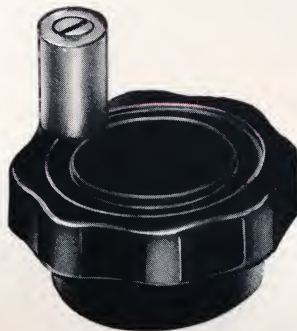
SCH-309



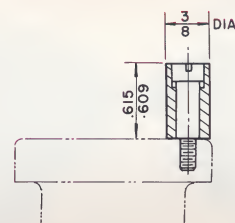
SCH-654



SCH-312



SCH-309



Handles available in brass, dull nickel plated, aluminum black anodized, and stainless steel.

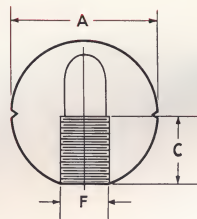
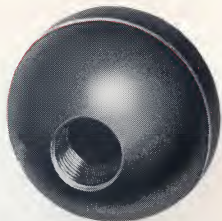
Knobs can also be furnished with dull black or dull gray paint.



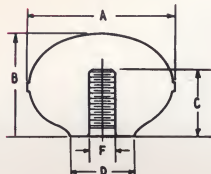
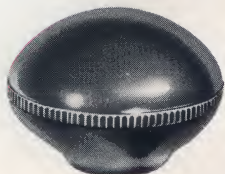


# GEAR AND CONTROL BALLS

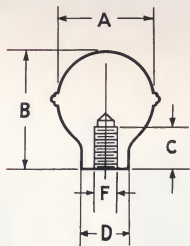
S-440  
S-446



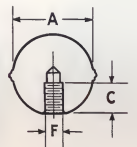
S-442



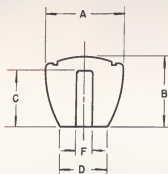
S-800



S-801  
S-802



S-8845



dimensions, inches

Part No.	a	b	c	d	f
S-440-3	1 7/8	—	3/4	—	3/8"-16
S-440-4			3/4		3/8"-24
S-440-5			7/8		1/2"-13
S-440-6			7/8		5/8"-18
S-440-16			3/4		7/16"-20
S-446-3	1 3/4	—	3/4	—	3/8"-16
S-446-5			1		1/2"-13
S-446-6			1 1/16		5/8"-18
S-446-14			3/4		5/16"-18
S-446-17			15/16		7/8"-14
S-446-19			15/16		3/4"-16
S-446-21			15/16		1"-14
S-446-26			1		1 1/2"-20
S-442-2	2	1 5/16	15/16	7/8	5/16"-24
S-442-4			15/16		3/8"-24
S-442-6			15/16		5/8"-18
S-442-26			3/4		1/2"-20
S-442-27			3/4		3/8"-24*
S-442-33			3/4		7/16"-20*
S-800-35C	1	1 7/32	5/8	1/2	5/16"-18
S-800-11E			1/2		#10-24
S-800-32			5/8		#8-32*
S-801-15C	1	—	1/2	—	5/16"-18
S-801-15D			3/8		#10-32
S-801-15E			1/2		#10-24
S-801-15F			1/2		3/8"-24
S-801-15G			3/8		#8-32
S-801-15Q			3/8		1/4"-28
S-801-15T			1/2		1/4"-20
S-801-15Z			1/2		5/16"-24
S-801-15EE			3/8		3/8"-16
S-801-20			5/16		#10-24*
S-802-10D	3/4	—	3/8	—	#10-32
S-802-10E	3/4	—	3/8	—	#10-24
	7/8	25/32	5/8	17/32	3/16"

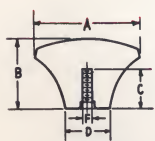
\* Brass bushing



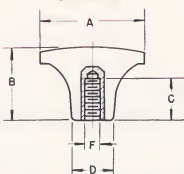
# UTILITY AND LID KNOBS



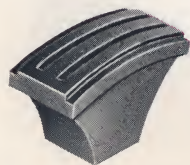
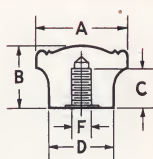
S-329, S-379



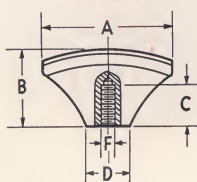
S-263



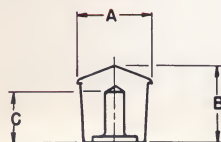
S-110, S-123



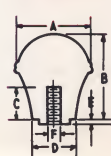
S-378



S-644



S-803



dimensions, inches

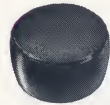
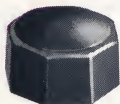
Part No.	a	b	c	d	f
S-329-13F	1 1/2	1	9/16	5/8	#8-32
S-329-13H	1 1/2	1	9/16	5/8	#10-24
S-379-13F	1 1/8	7/8	9/16	9/16	#8-32
S-379-13H			9/16		#10-24
S-379-16			—		—
S-379-17	1 1/8	7/8	—	—	—
S-110-13F	1 3/8	49/64	7/16	15/16	#8-32
S-110-13H	1 3/8	49/64	7/16	15/16	#10-24
S-123-13F	1	1 1/16	7/16	23/32	#8-32
S-263-1	1 3/32	3/4	—	7/16	—
S-263-2			—		—
S-263-3			7/16		#8-32
S-378-3	1 3/8	13/16	7/16	1/2	#8-32
S-378-13F			9/16		#8-32
S-378-13H			5/16		#10-24
S-803-15G	3/4	7/8	3/8	7/16	#8-32
S-803-15GH	3/4	7/8	3/8	7/16	#8-32
S-644-112	1/2	33/64	1 1/32	7/16	.116

## key to suffixes

- 1 8-32 CRS screw projecting 1/4".
- 2 8-32 aluminum screw projecting 1/4".
- 3 8-32 tapped insert.
- 13F No brass insert, 8-32 thread.
- 13H No brass insert, 10-24 thread.
- 15G No brass insert, 8-32 thread with square boss.
- 15GH No brass insert, 8-32 thread, without boss.
- 16 8-32 stud, projecting 1/4".
- 17 3/32 rivet projecting 1/4".
- 112 .116 molded hole with 3/16 x 1/32 deep counterbore molded in.



# GENERAL PURPOSE CONTROL KNOBS



Part Dia. Height Type Shaft Hole

<b>S-632</b>	1 1/32	25/32	-1, -29, -35 -3
<b>S-123</b> <b>S-110</b>	1 1 3/8	1 1/16	-1, -3 -1
<b>*S-280</b> <b>*S-281</b>	13/16 15/16	15/32 17/32	-7, -7AA, -35 -7, -7AA, -35
<b>S-465</b> <b>S-466</b>	15/16 1 1/8	1 1/32 2 1/32	-1, -35, -96 -1, -35
<b>S-467</b> <b>S-468</b>	1 1 3/16	4 1/64 3 7/64	-1, -29, -35 -1, -29, -35
<b>S-451</b> <b>S-452</b> <b>S-457</b>	13/16 1 1 1/8	1 7/32 5/8 5/8	-7, -7AA, -35 -1, -29, -35 -1, -29, -35
<b>*S-461</b>	1 1/8	5/8	-1, -29, -35
<b>S-6843</b>	1 1/16	1 1/16	-1
<b>S-453</b>	1	2 1/32	-1, -3, -29 -30, -35, -38 -96, -103, -110
<b>S-708</b>	1 1/4	5/8	-7, -7AA
<b>S-709</b>	1 3/16	45/64	-29

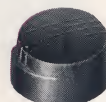
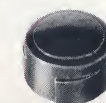
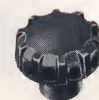
\*Add suffix L to base part number if indicator is to be filled

## key to suffixes

- 1 Molded hole to fit standard 1/4" shaft, with one setscrew.
- 3 Flush type brass insert to fit standard 1/4" shaft, with one setscrew.
- 7 Push on type to fit standard 1/4" shaft, flatted to .156, with spring.
- 7AA Molded spring type hole to fit standard 1/4" shaft, with one setscrew.
- 21 Molded hole to fit standard 5/8" shaft, with one setscrew.
- 29 Push on type to fit standard 1/4" shaft, flatted to .156, with spring.

Part Dia. Height Type Shaft Hole

<b>S-480</b>	15/16	23/32	-7, -35
<b>S-474</b>	1 1/32	1 1/16	-7
<b>S-488</b>	29/32	23/32	-7, -7AA
<b>S-282</b>	29/32	3/4	-3, -7, -7AA -21, -31, -37, -94
<b>S-449</b> <b>S-450</b>	3/4 7/8	3/4 7/8	-1, -29, -35 -1, -29, -35
<b>S-475</b>	3/4	1 7/32	-1, -7, -35
<b>S-476</b> <b>S-477</b>	3/4 1	1 7/32 5/8	-1, -7, -35 -1, -29, -35
<b>S-478</b> <b>S-479</b>	13/16 1	9/16 2 1/32	-1, -7, -35 -1, -29, -35
<b>S-471</b> <b>S-472</b>	7/8 1 1/8	39/64 1 1/16	-1, -29, -35 -1, -29, -35
<b>S-469</b> <b>S-470</b>	1 1 3/16	5/8 9/16	-1, -29, -35 -1, -29, -35
<b>S-462</b> <b>S-473</b>	1 1 1/8	5/8 5/8	-1, -35 -1, -29, -35



- 30 Push on type to fit .052 x 3/16" flatted shaft, with spring.
- 31 Square hole to fit standard 1/4" shaft, with one setscrew.
- 35 Push on type to fit standard 1/4" straight knurled split shaft.
- 38 1/4-20 tapped insert.
- 96 Push on type to fit 3/16" shaft, flatted to .156, with spring.
- 103 Molded hole to fit 3/16" square shaft, with spring.
- 110 D-shaped hole to fit 3/16" shaft, flatted to .156, with one setscrew.



# DECORATIVE ALUMINUM KNOBS

dimensions, inches



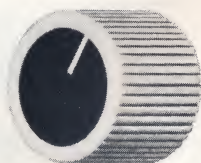
S-1000-21-40908  
S-1000-21-40913

plain  
indicator

$\frac{7}{16}$

$\frac{5}{8}$

$\frac{1}{8}$



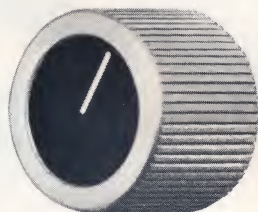
S-1001-21-40909  
S-1001-21-40914  
S-1001-1-40909  
S-1001-1-40914

plain  
indicator  
plain  
indicator

$\frac{3}{4}$

$\frac{9}{16}$

$\frac{1}{8}$   
 $\frac{1}{4}$



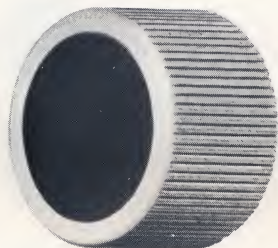
S-1002-1-40910  
S-1002-1-40915

plain  
indicator

1

$1\frac{1}{16}$

$\frac{1}{4}$



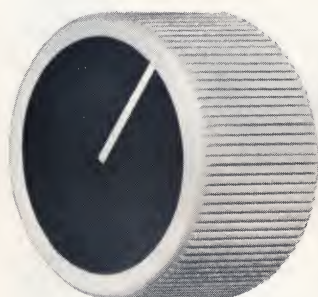
S-1003-1-40911  
S-1003-1-40916

plain  
indicator

$1\frac{1}{4}$

$\frac{3}{4}$

$\frac{1}{4}$



S-1004-1-40912  
S-1004-1-40917

plain  
indicator

$1\frac{1}{2}$

$1\frac{3}{16}$

$\frac{1}{4}$



Stocked standard with clear anodized finish, one slotted-head setscrew and black inlays, with or without indicator lines. Can be supplied with various anodized colors and inlays on special order.



SF-1516 is stocked in black anodized finish with two #4-40 hex socket setscrews, bottom tapped for dial assembly. No inlay.  $\frac{5}{8}$  x  $\frac{9}{16}$  high.





## GENERAL INFORMATION

Kurz-Kasch supplies many parts listed under Class 5355 in Federal Supply Catalog. Manufacturer's Code #75376. Contact us for quotations.

### Special Operations —

Following is partial list of operations we are set up to perform on instrument knobs.

Operation No.	Description
B	Facing off brass insert flush.
502	Facing off of plastic boss on bottom of knob flush.
L	Filling of indicator line or engraving.
DL	Spot drilling and filling of indicator dot on top edge.
BB	Adding of second setscrew. Std. location 90° R, except as noted.
522	Adding of second setscrew hole.
DD	Counterboring bottom of knob.
588	Counterboring top of knob for dual controls.
EE	Reaming shaft hole to $\frac{3}{8}$ " diameter.
X	Drilling and tapping of three 6-32 x $\frac{3}{8}$ " deep mounting holes in bottom.
613	Reaming shaft hole to special size.

SPECIAL COLORS AVAILABLE ON REQUEST

## SPECIAL FINISHES

Non-reflective or matte finish available on all knobs.

Dull black or dull gray by spray paint method, to Federal Specification 595, or a more expensive and durable vapor blast finish if required.

**key to suffixes** —A Sand blast.  
—595 Vapor blast — satin finish.  
—650 Spray paint — dull finish.

Special engravings to order.

## SPECIAL MACHINING

Often it is more economical on smaller quantities to add various machining operations on existing knobs than to order special tooling. For instance, on many skirted knobs, the skirts can be removed through finishing operations, or made smaller in diameter. Recessed counterbores can be readily machined on the tops of knobs and decorative or informative inlays can be added. It is even possible to mold decorative printed foils or overlays on some models. Bushings for smaller shaft holes can often be pressed into larger diameter holes.





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## KURZ-KASCH INC.

*Molders of Plastics*  
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telephone: 513-223-8161  
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